

THREE NEW SPECIES OF THE LONGULUS GROUP OF CYLINDROCOPTURUS (COLEOPTERA : CURCULIONIDAE).

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The descriptions in this paper are preliminary, but they are published now in order to establish names that are needed for use in economic reports. More complete data for these and other United States species of *Cylindrocopturus*, accompanied by keys and illustrations, can, it is hoped, be given in a future paper. To make more intelligible certain comparative statements on the following pages, two changes in status should be recorded. After studying the types, the writer believes that *Cylindrocopturus dispersus* Csy. (eastern part of the United States) and *C. obscurellus* Csy. (Colorado, New Mexico, and Arizona), now placed as synonyms of *C. longulus* Lec. (California), are distinct species.

The three new species here described share several characters which are enumerated at this point and for the most part not referred to again.

Scales overlapping, covering derm, most of pronotal scales feebly concave, elytral scales forming at least a double row on each interval except first, where they are in a single row. Rostrum finely punctate, as long as pronotum or a little longer. Antenna black or piceous, club twice as long as wide. Interocular space always narrow, but individually variable, ranging from about one-sixth to one-twelfth width of an eye. Elytral intervals without tubercles or high ridges, usually convex, at least in places, except interval 1, which is normally flat and depressed. Male with rostral punctures a little larger than in female, and with a distinct concavity at base of abdomen, the concavity reaching base of ventrite 1; base of abdomen of female convex to flat, occasionally feebly concave, but the concavity almost never reaching base of ventrite 1.

The color pattern is formed, basically, of white marks on a dark background and, on an elytron, consists of a "posterior bar" (often the most conspicuous dorsal mark) beginning near suture at about apical third or two-fifths and extending first transversely and then obliquely forward to interval 8, usually broken about middle; an "anterior bar" (nearly always diffuse and often either absent or merged with a sprinkling of other white scales toward base) beginning on interval 8 just posterior to humerus and extending obliquely backward toward suture, the area between the two white bars often appearing as an oblique, blackish bar; frequently a "sutural line," often indistinct or broken, connecting the two white bars; a humeral spot on base of interval 6, or on bases of 6 and 7. Usually also

there are scattered white scales basally and apically. Interval 1 usually tessalated in apical half or more. On the pronotum the basic pattern consists of three whitish lines, one median and one on each side margin, the lines irregular, often poorly defined or largely absent, the median line, when present, narrow and usually well defined basally and apically, but much dilated and very diffuse at middle.

The writer was fortunate in having for study exceptionally fine series (more than 1,700 specimens in one case) furnished mostly by R. L. Furniss, C. B. Eaton, and D. DeLeon, all of the Division of Forest Insect Investigations of the Bureau of Entomology and Plant Quarantine.

Cylindrocopturus furnissi, new species.

Average length about 2.5 mm. (extremes, 2-3 mm.); average width about 1.05 mm. Ground color above usually dark cupreous, appearing more fuscous than cupreous in natural light, occasional specimens lighter cupreous, some of the scales on such specimens, especially along suture, with a greenish tinge. Pronotal white scales very few to moderately numerous, the whitish lines usually vague and much broken. Elytra usually with a distinct, medially broken posterior bar, a less distinct sutural line, a feeble anterior bar, a small humeral spot, and a sparse sprinkling of scales basally and apically; by an increase in the proportion of white scales, the markings become larger, the scaly sprinkling more profuse, the posterior bar occasionally complete, and the pronotal lines evident; by a reduction in the proportion of white scales, the dorsal color becomes almost entirely dark, relieved only by a small humeral spot and a much reduced posterior bar. Underside whitish, often with opalescent tinges on middle of abdomen basally, cupreous scales extremely variable in number, usually numerous laterally, and apparently always present on metepisternum, and usually also on sides of ventrites 1 and 2, and on at least middle of ventrites 3 and 4; ventrite 5 in female subevenly clothed with whitish or whitish and cupreous scales; ventrite 5 in male usually with mixture of whitish and cupreous scales except on a scaleless, semielliptical, apical area, the apical margin with very short, black, erect hairs. Femora with whitish and cupreous scales, the latter more abundant in apical halves and often condensed in antemedian and apical patches or incomplete annuli. Rostrum about seven times as long as thick just anterior to antennal socket. Prothorax wider than long (about 11 to 9). Elytral intervals usually nearly flat or feebly convex, sometimes rather strongly convex, the second, especially on declivity, often more strongly convex than the others; usually a feeble impression just mesad of humerus and a vaguely defined, flattened area on flank posterior to humerus. Median lobe of male genitalia much narrowed toward the bluntly lanceolate apical portion, where it is hardly more than a third as wide as at middle.

Type locality.—La Grande, Wash.

Type, male, and 260 paratypes, male and female, Cat. No. 54391 U. S. National Museum.

The type series was selected from about 500 specimens reared from twigs of Douglas fir, *Pseudotsuga taxifolia*, at the type locality by R. L. Furniss (Hopk. No. 31798a) during 1939; and from a small series from same locality and host, F. P. Keen and R. L. Furniss, VI-23-1935 (Hopk. No. 20578-A).

Specimens of *furnissi*, not included in the type series, are at hand from other localities as follows:

Washington: Tenino (Hubbard and Schwarz).

Oregon: Aurora Mills (1893); Oswego (VII-18-1935, R. L. Furniss, *Pseudotsuga taxifolia*, Hopk. No. 31654-A); Lane County (July 10, 1923, J. S. Boyce, *Pseudotsuga taxifolia*, Hopk. No. 10640a); St. Helens (A. D. Hopkins, *Pseudotsuga taxifolia*, Hopk. No. 113).

California: Gasquet Ranger Station (V-21-37, R. L. Furniss, reared from twigs of *Pseudotsuga taxifolia*, Hopk. No. 31716-A).

C. furnissi is closely related to *dispersus* Csy., the latter, according to specimens examined, ranging from Ontario (type locality) to North Carolina and west to Ohio. *C. dispersus*, which doubtless breeds in species of *Pinus*, has the dorsal scales more scattered than does *furnissi*, the dorsal aspect being more speckled. The posterior bar is usually reduced to the portions on intervals 2, 3, and 4 and a spot on 8 or on 7 and 8, and the underside averages paler than in *furnissi*. Though these differences seem none too convincing, the writer believes there can be no reasonable doubt that *furnissi* is distinct.

***Cylindrocopturus deleoni*, new species.**

Average length about 3 mm. (extremes 2.8-3.5 mm.); average width about 1.2 mm. Ground color above dark cupreous, the first interval in basal third lighter cupreous, the pale scales on pronotum few, mostly located in a condensed spot or short line opposite humeral spot and in a large, transverse, very diffuse median patch; elytra with rather numerous white scales, posterior bar distinct and often complete or nearly so, anterior bar diffuse, a tessellated sutural line from basal third to apex, interval 6 often irregularly tessellated from base to declivity, surface in front of anterior bar (except for a dark sutural area at basal fourth) and behind posterior bar (except for an area at top of declivity divided by the sixth interval) with a sprinkling of white scales, the general aspect often decidedly speckled. Under surface whitish, scales medially, especially at base of abdomen, more or less opalescent; cupreous scales rather numerous laterally, scattered or loosely grouped here and there, and often present medially on ventrites 2, 3, and 4, often absent or nearly so on ventrite 5 of female; ventrite 5 of male without scales in a medioapical area (as in *furnissi*), the apical margin with minute black hairs; femora speckled, dorsal surface of each with or without antemedian and apical patches (or incomplete annuli) of dark scales. Rostrum a little more strongly arcuate in male than in female, a trifle longer relatively than in *furnissi* (about eight times as long as thick just anterior to antennal socket), punctures a little coarser than in *furnissi*. Prothorax slightly wider than long (more elongate than in *furnissi*) and a little more

narrowed anteriorly. Elytra apparently a little longer relatively and more narrowed posteriorly than in *furnissi*, intervals usually convex; surface flattened or lightly impressed in a common area posterior to scutellum, a small impression at humeral spot, a vaguely defined flattened area on flank behind humerus, and a small flattened area on intervals 6 and 7 where posterior bar crosses. Median lobe of male genitalia about as in *furnissi*, but with apical narrowed portion longer.

Type locality.—Little Medicine, Wyo.

Type, male and 69 paratypes, male and female, Cat. No. 54392 U. S. National Museum.

The type series was reared from roots and root collar of a 3-inch *Pinus contorta* between November 18, 1939, and May 25, 1940, by D. DeLeon (Hopk. No. 31562 V-2). Specimens of *deleoni*, not included in the type series, are at hand from other localities as follows:

Wyoming: Vicinity of canyon of Yellowstone (Wickham collection, IX).

Idaho: Cedar Mountain (July 5, 1899, A. D. Hopkins, *Pinus ponderosa*, Hopk. No. 253).

Montana: West Yellowstone (VIII-27-26, H. E. Burke, *Pinus murryana*).

Notes accompanying the Hopkins number on the two Idaho specimens state: "Fungus gall infested with coleopterous larvae on yellow pine." Though thus apparently differing in habits from *deleoni*, as represented by the type series, these Idaho specimens seem indistinguishable on morphological characters.

C. deleoni is close to *furnissi* but differs in its larger size and more tapering form, *furnissi* being a "chunkier" species. In addition, *deleoni* has on the average a greater proportion of white scales (resulting in a more speckled aspect above and on femora), more convex elytral intervals, and a more evident postscutellar impression.

***Cylindrocopturus eatoni*, new species.**

Average length about 2.6 mm. (extremes 2-3.2 mm.); average width about 1.1 mm. Color above dark cupreous, with a plentiful sprinkling of pale or white scales, these usually forming on pronotum a rather broad but not sharply defined lateral stripe, at least in basal half, the median line represented by a patch or short line of scales at base and at apex, each line joining a loose aggregation of pale scales at middle, the latter sometimes arranged so as to enclose an immaculate median spot; white scales on elytra more numerous than usual, nearly the entire area in front of anterior bar with a more or less profuse sprinkling, the declivity with a similar sprinkling, the general dorsal aspect often being white-speckled, with dark areas as follows: Outer face of humerus, a small area next to suture at basal fourth, the oblique bar between the anterior and posterior white bars, and an indefinite area just behind posterior bar. Posterior

bar broken, or complete or nearly so; sutural interval often tessellated nearly throughout. Underside white or nearly so as a rule, cupreous scales when present largely confined to sides of meso- or metathorax. Apical portion of ventrite 5 not so convex transversely as in the two preceding species, often appearing nearly flat in male, in which sex the apical scaleless area is much narrower and the fine black hairs on apical margin considerably longer than in *furnissi* and *eatoni*; female with similar but shorter hairs on ventrite 5. Femora pale, the apical half of dorsal surface of each with some cupreous scales which are sometimes scattered and sometimes grouped into antemedian and apical patches or incomplete annuli. Rostrum slender, about nine times as long as thick just in front of antennal socket, punctures fine in male, extremely fine in female (finer than in the two preceding species). Prothorax transverse (about 6 to 5). Elytra with postscutellar area not or faintly impressed, interval 1 less depressed than in the two preceding species, other intervals convex. Median lobe of male genitalia feebly narrowed apically and there half to two-thirds as wide as at middle.

Type locality.—Big Springs Plantation, Lassen National Forest, Calif., Hopk. No. 32631e.

Type, male, and 270 paratypes, male and female, Cat. No. 54393 U. S. National Museum.

At least 1,700 specimens have been seen or studied. They were reared by Charles B. Eaton from twigs of ponderosa and jeffrey pine at the type locality, Hopk. No. 32631a, b, c, e (1939) and Hopk. No. 32330a (1938). A few specimens from Lassen National Forest bear label "Miller 287," and 2 specimens were collected by H. E. Burke at Yreka, Calif.; none of these latter 2 lots is included in the type series.

By the shape of ventrite 5 and by the male genitalic structure, *eatoni* belongs near *obscurellus* Csy. (type locality, Colorado). The latter, judging by a small series at hand (12 specimens), is usually a darker species with a complete and more conspicuous posterior bar and more nearly parallel-sided elytra. The single male of *obscurellus* that is sufficiently matured for genitalic study has the median lobe less arcuate in side view, and the lateral margins toward apex (in dorsal view) more emarginate than in average *eatoni*. These apparent differences may not be significant, but at least until adequate material of *obscurellus* is available *eatoni* should be treated as a distinct species.

The more extensively white-speckled dorsum, the usually unicolorous white underside, the better developed lateral whitish line on pronotum, and especially the structure of ventrite 5 in male, distinguish *eatoni* from *furnissi* and *deleoni*.